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| ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024 | | | ZHAO, WEI | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/597,135 | Applicant(s) HUECK ET AL. | |
| | Examiner WEI ZHAO | Art Unit 2475 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-19,21-40 and 44-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-19,21-40 and 44-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is considered fully responsive to the Amendment filed on September 18, 2009.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2, 6, 8, 14, 17-19, 21, 29, 33, 36, 40, 44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodin et al. (US 2006/0036719) in view of Yousefi'zadeh et al. (US 6,950,848).

For claim 1, Bodin et al. teach the method of performing load distribution between a plurality of Broadband Remote Access Servers ("BRASs") (paragraph [0051] lines 1-9 and paragraph [0054] lines 9-19), the method comprising: conveying individual load information about each BRAS in the plurality of BRASs to at least one Ethernet access node (paragraph [0038] lines 1-7).

Bodin et al. teaches all the subject matter with the exception of implementing the database on available server. Yousefi'zadeh et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein building, by an Ethernet access node, a database of available BRASs based on the conveyed individual load information, the database including address and load information about each BRAS in the plurality of available BRASs (column [11] lines 15-35); receiving an initiation message by the at least one Ethernet access node (column [11] lines 33-35), determining a preferred BRAS by analyzing the load information stored in the database (column [11] lines 15-20), and forwarding the initiation message to the preferred BRAS (column [11] lines 33-35). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Yousefi'zadeh et al. in the system of Bodin et al. The method of Bodin et al. can be implemented on any type of the method implementing the database on available server. The motivation for using the method of Bodin et al. on implementing the database on available server is to manage the load balancing.

For claims 2 and 6, these two claims are similar to claim 1. Claims 2 and 6 are rejected for the same reasons as to claim 1.

For claim 8, Bodin et al. teach the method further comprising, conveying the individual load information and polling each BRAS in the plurality of BRASs to obtain information regarding load status the respective BRAS (paragraph [0051] lines 1-9 and paragraph [0054] lines 9-19).

For claim 14, Bodin et al. teaches all the subject matter with the exception of implementing the percent of maximum load. Yousefi'zadeh et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the load information includes a percent of maximum load for each respective BRAS (column [11] lines 15-20). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Yousefi'zadeh et al. in the system of Bodin et al. The method of Bodin et al. can be implemented on any type of the method implementing the percent of maximum load. The motivation for using the method of Bodin et al. on implementing the percent of maximum load is to manage the load balancing.

For claim 17, Bodin et al. teaches all the subject matter with the exception of implementing the requested service. Yousefi'zadeh et al. from the same or similar field of endeavor teach implementing fairness of the method, further comprising: receiving a requested service in the initiation message (column [11] lines 33-35), verifying that the requested service is available on the preferred BRAS (column [11] lines 15-20), and if the requested service is not available, selecting another BRAS from the plurality of available BRASs (column [11] lines 33-35). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Yousefi'zadeh et al. in the system of Bodin et al. The method of Bodin et al. can be implemented on any type of the method

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implementing the requested service. The motivation for using the method of Bodin et al. on implementing the requested service is to provide a better quality-of-service based on the available resource.

For claims 18, 19, and 21, these three claims are all similar to claim 1. Claims 18, 19, and 21 are rejected for the same reasons as to claim 1.

For claim 29, it is similar to claim 8. Claim 29 is rejected for the same reasons as to claim 8.

For claim 33, it is similar to claim 14. Claim 33 is rejected for the same reasons as to claim 14.

For claim 36, it is similar to claim 17. Claim 36 is rejected for the same reasons as to claim 17.

For claim 40, it is similar to claim 8. Claim 40 is rejected for the same reasons as to claim 8.

For claim 44, it is similar to claim 14. Claim 44 is rejected for the same reasons as to claim 14.

For claim 47, it is similar to claim 36. Claim 47 is rejected for the same reasons as to claim 36.

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5. Claims 4, 5, 7, 9-13, 15, 16, 22-28, 30-32, 34, 35, 37-39, 45, 46, 48, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodin et al. (US 2006/0036719) in view of Yousefi'zadeh et al. (US 6,950,848), and further in view of Kitada et al. (US 2003/0037163).

For claim 4, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of substituting a destination broadcast address of the initiation message to the MAC address. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the forwarding the initiation message to a mediation device includes substituting a destination broadcast address of the initiation message to the MAC address of the mediation device (paragraph [0335] lines 9-16). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the destination broadcast address of the initiation message to the MAC address. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the destination broadcast address of the initiation message to the MAC address is to transfer the modified request to only the one of the provider's devices.

For claim 5, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of substituting a destination broadcast address of the initiation message to the predefined address. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the forwarding the

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initiation message to a mediation device comprises substituting a destination broadcast address of the initiation message with a predefined broadcast address of a mediation device cluster (paragraph [0335] lines 9-16). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the destination broadcast address of the initiation message to the predefined address. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the destination broadcast address of the initiation message to the predefined address is to transfer the modified request to only the one of the provider's devices.

For claim 7, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of implementing the message containing address information. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the conveying further comprises receiving a plurality of broadcast messages from each BRAS in the plurality of BRASs, wherein each broadcast contains address information and information regarding load status for the respective BRAS (paragraph [0295] lines 1-6). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the message containing address information. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al.

on implementing the message containing address information is to transfer the broadcast message to the respective devices.

For claim 9, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of implementing the Simple Network Management Protocol (SNMP). Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the polling is implemented using SNMP (paragraph [0370] lines 1-6). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the SNMP. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the SNMP is to monitor network-attached devices for conditions that warrant administrative attention.

For claim 10, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of conveying at a predetermined interval. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the conveying is performed at a predetermined interval (paragraph [0279] lines 1-8). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method conveying at a predetermined interval. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the predetermined interval is to provide a time-based communication monitoring function.

For claim 11, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of implementing the Point-to-Point Protocol over Ethernet (PPPoE) session. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the polling is performed whenever a new Point-to-Point Protocol over Ethernet (PPPoE) session is established (paragraph [0161] lines 1-9). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the PPPoE session. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the PPPoE session is to provide a point-to-point interface which runs over a Layer 2 infrastructure.

For claims 12 and 13, these two claims are similar to claim 4. Claims 12 and 13 are rejected for the same reasons as to claim 4.

For claim 15, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of implementing the PPPoE Active Discovery Initiation message. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the initiation message is a PPPoE Active Discovery Initiation message (paragraph [0210] lines 1-10). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the PPPoE Active Discovery Initiation message. The motivation for using the method of Bodin et al. and

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Yousefi'zadeh et al. on implementing the PPPoE Active Discovery Initiation message is to provide a session management between the network and user devices.

For claim 16, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of conveying at configurable intervals. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, further comprising: repeating the conveying at configurable intervals (paragraph [0279] lines 1-8). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method conveying at a configurable interval. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the configurable interval is to provide a configurable time-based communication monitoring function.

Yousefi'zadeh et al. further teach updating the database if new information from the conveying is received (column [11] lines 15-35).

For claim 22, it is similar to claim 15. Claim 22 is rejected for the same reasons as to claim 15.

For claim 23, Bodin et al. and Yousefi'zadeh et al. teaches all the subject matter with the exception of implementing the PPPoE Active Discovery Offer message. Kitada et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the response message is a PPPoE Active Discovery Offer message (paragraph [0210] lines 1-10). Thus, it would have been obvious to one of ordinary skill

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in the art to implement the method of Kitada et al. in the system of Bodin et al. and Yousefi'zadeh et al. The method of Bodin et al. and Yousefi'zadeh et al. can be implemented on any type of the method implementing the PPPoE Active Discovery Offer message. The motivation for using the method of Bodin et al. and Yousefi'zadeh et al. on implementing the PPPoE Active Discovery Offer message is to implement a session management between the network and user devices.

For claim 24, it is similar to claim 15. Claim 24 is rejected for the same reasons as to claim 15.

For claim 25, it is similar to claim 23. Claim 25 is rejected for the same reasons as to claim 23.

For claims 26 and 27, these two claims are similar to claims 15 and 23 individually. Claims 26 and 27 are rejected for the same reasons as to claims 15 and 23.

For claim 28, it is similar to claim 7. Claim 28 is rejected for the same reasons as to claim 7.

For claims 30-32, these three claims are similar to claims 10, 12, and 13 individually. Claims 30-32 are rejected for the same reasons as to claims 10, 12, and 13.

For claims 34 and 35, these two claims are similar to claims 15 and 16 individually. Claims 34 and 35 are rejected for the same reasons as to claims 15 and 16.

For claims 37-39, these three claims are similar to claims 12, 13, and 7 individually. Claims 37-39 are rejected for the same reasons as to claims 12, 13, and 7.

For claims 45 and 46, these two claims are similar to claims 15 and 16 individually. Claims 45 and 46 rejected for the same reasons as to claims 15 and 16.

For claims 48 and 49, these two claims are similar to claims 37 and 38 individually. Claims 48 and 49 rejected for the same reasons as to claims 37 and 38.

Response to Remarks/Arguments

6. Claims Objections: in the Response, filed September 18, 2009 Applicants amended claims for the purpose of correcting the informalities. Therefore, the previous objections to the claims are withdrawn.

7. Claims Rejections: Applicants' arguments filed September 18, 2009 have been fully considered but they are not persuasive.

On pages 11-13 of the Response with respects to claim 15, Applicants assert the prior art doesn't teach "conveying individual load information from each BRAS in the plurality of BRASs to at least one Ethernet access node; building, by the at least one

Ethernet access node, a database of available BRASs based on the conveyed individual load information, said database including address and load information about each BRAS in the plurality of available BRASs; receiving an initiation message by the at least one Ethernet access node; determining by the at least one Ethernet access node, a preferred BRAS by analyzing the load information stored in the database; and forwarding the initiation message from the at least one Ethernet access node to the preferred BRAS.”

The prior art teaches that the entities in the architecture are related as directed graphs as shown in FIG. 1. Note that peering between siblings at each layer may occur to solve certain problems efficiently (as in FIG. 1 between MRM b and h and between NRM d and i). This may be exemplified by two adjacent link layer networks that are interconnected through several links or network interfaces. **The NRMs in these networks may then need to peer with each other to distribute the load between the multiple interconnections** (paragraph [0051] lines 1-9, Bodin et al.). **A super-address may be an IP address and the sub-address may be a physical address for nodes in the subnet that are given a super-address e.g., edge nodes of the subnet such as a Broadband Remote Access Server (BRAS) in a Digital Subscriber Line (DSL) access network and internal nodes such as a Digital Subscriber Line Access Multiplexer (DSLAM) in a DSL network.** This allows the super-NRM to request resources through and in the domain of a sub-NRM by just indicating the nodes between which resources is requested using its own address scheme (paragraph [0054] lines 9-19, Bodin et al.). An example of such a conventional network is a multi-

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technology network where an operator provides an IP/MPLS backbone and several access networks based on various switched link layer technologies e.g., including an access network based on ATM switching, another **access network based on Ethernet switching (Examiner Note: the Ethernet switching has the same function of the “Ethernet access node” as claimed in the current application)** and a third based on WLAN technologies (paragraph [0038] lines 1-7, Bodin et al.). The prior art further teaches that a user points the browser 34 from a remote client 14 across a wide or metropolitan area to a web server 18 co-located with, or **remotely located against, other components of the e-commerce model including database servers, database storage, and database load balancing units**. In one example, a user at a client 14 uses a web browser 34 to establish a connection II with a web server 18, **using an HTTP address to request information stored in a database about an item**. The middle tier 16 includes two control modules (CM) 28 with a heartbeat interface III therebetween. The control modules 28 provide a dual web HTTP routing model. The two control modules 28 provide redundancy in the form of an active control module and a passive control module, wherein when an active control module fails, the passive control module becomes active for routing transactions to the web servers 18. The status of an active control module is monitored by the passive control module via the heartbeat interface III. The heartbeat interface III can comprise a simple dedicated 10baseT **Ethernet interface sending frequent ping requests between the two control modules 28** (column [11] lines 15-35, Yousefi'zadeh).

Based on the fact, Examiner respectfully disagrees that the prior art cited does not teach the independent claim 1 as mentioned by Applicants. Independent claims 3, 6, 18, 19 and 21 set forth similar elements as claim 1's, so the prior art teaches claims 3, 6, 18, 19 and 21. Furthermore, the cited passages teach dependent claims 4-5, 7-17, 22-40, 44-49 as well.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI ZHAO whose telephone number is (571)270-5672. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wei Zhao

Examiner

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/W. Z./

Examiner, Art Unit 2475

/DANG T TON/

Supervisory Patent Examiner, Art Unit 2475/D. T. T./

Supervisory Patent Examiner, Art Unit 2475